

REMARKS

Claims 7, 8, 10-17, 19-27, and 29-37 are pending in the present application and have been rejected under 35 U.S.C. § 103(a) as being unpatentable over the admitted prior art (specifically, Fig. 1 of the present application) in view of Fisher (U.S. Patent No. 4,275,122). Applicant appreciates the Examiner's withdrawal of the previous grounds of rejection in light of Applicant's submissions in support of patentability.

Before addressing the rejection, Applicant notes that the Specification has been amended as indicated above to include a description of Fig. 1, which was inadvertently omitted when filing a substitute specification in the present application. The above-listed amendments do not constitute new matter because they are taken from the present application's priority document, U.S. Patent No. 6,796,739, and were included in the original filing but, as addressed above, were erroneously omitted in the later-filed substitute specification. Applicant appreciates entry of these amendments.

Regarding the rejection of claims 7, 8, 10-17, 19-27, and 29-37 as unpatentable over the admitted prior art ("APA") in view of Fisher, Applicant respectfully disagrees with the proffered rejection and believes that the present application is in condition for allowance.

The APA, as described in the above-listed amendments, addresses many prior art superconducting motor systems. Specifically, the APA explains that, since virtually all torque is transferred through the vicinity of singularity points and little is transferred through the rest of the joint, prior art superconducting motor systems include bonds at the joints that often fail. On the other hand, the claimed invention, in part, calls for a joint in a superconducting motor that is formed by dissimilar materials that is substantially free of singularities and, thus, is not as likely to fail. For at least these reasons, the claimed invention is patentably distinguishable over the APA.

The addition of Fisher does not overcome these shortcomings in the prior art. First, Applicant contends that the APA and Fisher cannot be properly combined. Specifically, the APA is directed to superconducting motors and the unique operating conditions and problems associated with superconducting motors. On the other hand, Fisher makes not mention of superconducting motors or the applicability to superconducting motor systems. Applicant questions how Fisher, which does not teach or suggest superconducting motors, can be said to teach such a system or motivate combination with art to yield such a system?

Second, Fisher teaches the use of adhesive bonds in the joint, which (1) is not substantially free of singularity points, and (2) the APA teaches directly away from adhesive bonds. Specifically, Fisher teaches, even in the Abstract, “[a]n assembly of a universal joint member and a shaft having a plurality of superimposed layers of material and an **adhesive bond** between axially inter-fitting parts of the shaft and universal joint member, the **adhesive bond** being established with more than one of the layers of material of the shaft to overcome a tendency to disruption of the layers of the shaft on torque transmission.” (Emphasis added). Like Fisher, the APA acknowledges that one “way to secure a composite cylinder to a support or shaft end would be to use an adhesive bond therebetween.” However, the APA expressly states thereafter, “Unfortunately, the bond provided by this solution is typically not strong enough to withstand motor torque and shaft stresses over extended operating periods.”

In meeting the burden to establish a *prima facie* case of obviousness, “[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” MPEP §2143 citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Additionally, “[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” *Id.* citing *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

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In the case at hand, the APA is directed to superconducting motor systems and Fisher includes no teaching or suggestion regarding superconducting motor systems. In this case, Applicant does not believe one of ordinary skill in the art would be motivated to consider the teachings of Fisher. Furthermore, even if Fisher is considered, the APA teaches away from systems like that of Fisher and the combination is improper under MPEP §2143. Finally, as expressly addressed in the APA, systems such as those taught by Fisher that include adhesive bonds are not substantially free of singularities, as claimed. Hence, Applicant asserts that (1) there is no motivation for the proffered combination, (2) the APA teaches away from the proposed combination with Fisher, and (3) the combination does not does not teach or suggest the claimed invention.

For at least these reasons, claims 7, 17, 26, and 31 are patentably distinct from the art of record. However, Applicant believes that these claims include additional subject matter that is distinguishable over the art of record. For example, claim 26 calls for a vacuum jacket and claim 31 calls for particular operational temperature changes, which further exemplifies that the present invention is directed toward superconducting motor systems that, as addressed above, are not taught or suggested by Fisher. Similarly, claims 8, 10-16, 19-26, 29-31, and 32-37 include subject matter that is additionally distinguishable from the art of record. However, in light of the fact that these claims depend from what is believed to be an allowable claim, no additional remarks are necessary. That is, claims 8, 10-16, 19-26, 29-31, and 32-37 are in condition for allowance at least pursuant to the chain of dependency.

Hence, the present application is in condition for allowance and timely issuance of a Notice of Allowance is respectfully requested. As always, the Examiner is invited to contact the undersigned at the telephone number appearing below if such would advance the prosecution of this application.

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The Commissioner is hereby authorized to deduct any fees arising in the present application, from Deposit Account No. 17-0055.

Respectfully submitted,

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